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(FILE 'HOME' ENTERED AT 15:20:27 ON 20 MAR 2003)

FILE 'CA' ENTERED AT 15:20:56 ON 20 MAR 2003

L1 39771 S FEED BACK OR FEEDBACK
L2 39310 S (AUTOMAT? OR PROCESS!R OR MICROPROCESS!R OR COMPUTER OR SOFTWARE)
(3A) (CONTROL? OR DIRECT? OR REGULAT?)
L3 984 S L1 AND L2
L4 14 S L3 AND TITRAT?
L5 152 S TRIANG?(L)TITRAT? OR (TRIANG AND TITRAT?)
L6 42 S L5 AND (AUTOMAT? OR PROCESS!R OR MICROPROCESS!R OR COMPUTER OR
SOFTWARE OR PROGRAM OR COMPUTAT? OR PROGRAMMED)
L7 19438 S (SENSOR OR DETECTOR OR DETECTION) (3A) (CONTROL? OR DIRECT? OR
REGULAT? OR FOLLOW?)
L8 110 S L7 AND TITRAT?
L9 28 S L8 AND (ENDPOINT OR (END OR EQUIVALENCE) (1A) POINT)
L10 83 S L4, L6, L9

=> d bib, ab 1-83

L10 ANSWER 9 OF 83 CA COPYRIGHT 2003 ACS
AN 131:157574 CA
TI Determination of phenol red pKa values in aqueous solution, using the
computational programs SQUAD and SUPERQUAD
AU Villegas-Gonzalez, Martha A.; Bonilla-Martinez, Dalia; Ramirez, Ma. Teresa;
Rojas-Hernandez, Alberto
CS Facultad de Estudios Superiores Cuautitlan, Seccion de Quimica Analitica,
Mexico, 54740, Mex.
SO Recent Research Developments in Pure & Applied Analytical Chemistry (1998),
1, 1-7
AB The purpose of this work is to obtain the pKa values of an acid-base
indicator from the sulfonphthalein family using spectrophotometric and pH
potentiometric data. In order to achieve this, **computational programs**
SQUAD and **TRIANG** (for absorbance data) and SUPERQUAD (for pH potentiometric
data) were used; pKa values for pKa1 = 1.082 ± 0.004 and pKa2 = $7.691 \pm$
 0.002 at ionic strength 1M were obtained by spectrophotometry with the
computational program SQUAD; in the same way, a pKa value of pKa2 = $8.040 \pm$
 0.025 was obtained at variable ionic strength by pH potentiometry with the
computational program SUPERQUAD.

L10 ANSWER 10 OF 83 CA COPYRIGHT 2003 ACS
AN 131:20649 CA
TI The S7-200 pH control system
AU Li, Jin; Lin, Wenjun; Gu, Bingfeng; Lui, Xueru
CS Dep. Computer Science Eng., Jiangsu Inst. Petrochem. Technol., Changzhou,
213016, Peop. Rep. China
SO Jiangsu Shiyong Huagong Xueyuan Xuebao (1999), 11(1), 46-49
LA Chinese
AB The concepts are obtained of buffer exponent and equil. lag from a
practical neutralization **titrn.** curve and the difficulties are shown of
controlling the pH neutralization process. The normal position control
strategies and the conventional **feed-back** control strategies can not deal
with the heavy nonlinear behavior and the great time lag of the pH control
process. So it is necessary to develop a control system for pH process
which is financially practical and can be used in the industrial process of
pH control. The **control** strategies, **software**, and program framework of the
S7-200 pH control system which is used in the continuous and intermittent
systems are described. Excellent performance is shown of the S7-200 pH

control system and the problems to be solved are described.

L10 ANSWER 11 OF 83 CA COPYRIGHT 2003 ACS

AN 130:107127 CA

TI Study of the determination of acetylcholine after enzymic hydrolysis by **triangle programmed coulometric flow titration**

AU Gyurcsanyi, Robert E.; Feher, Zsafia; Nagy, Geza

CS Institute of General and Analytical Chemistry, Technical University of Budapest, Budapest, H-1111, Hung.

SO Talanta (1998), 47(4), 1021-1031

AB A new method for the detn. of acetylcholine is introduced and studied. The method uses enzymic hydrolysis of acetylcholine carried out in a flow-through anal. reactor column, while for the detection **triangle programmed coulometric flow titrn.** is employed. The flow-through coulometric **titrn.** system and the prepn. of the enzyme reactor are described. The operation conditions for the hydrolysis and for the **titrn.** were optimized. The flow-through coulometric **titrn.** technique offers a better precision for the detn. of acetylcholine in small concn. ranges than methods based on the detection of pH change. Working conditions of the system can be easily adjusted for different sample concn. ranges. The limit of detection for the detn. of acetylcholine was found to be 8×10^{-5} M. The method described could be advantageously used for indirect detn. of acetylcholinesterase inhibitors.

L10 ANSWER 25 OF 83 CA COPYRIGHT 2003 ACS

AN 119:39924 CA

TI **Triangle programmed coulometric flow titration** with potentiometric and optical detection

AU Feher, Zsafia; Nagy, Geza; Slezsak, Istvan; Toth, Klara; Pungor, Erno

CS Inst. Gen. Anal. Chem., Techn. Univ., Budapest, H-1521, Hung.

SO Analytica Chimica Acta (1993), 273(1-2), 521-30

AB The application of a flow-through **titrn.** technique, the so-called **triangle programmed coulometric titrn.**, is presented for acid-base **titrns.** using potentiometric and photometric detection. A flow-through capillary glass electrode-SCE pair was employed for potentiometric detection, and an indicator mixt. and a light-emitting diode-phototransistor system was used for photometric detection. In photometric detection the precision of the end-point location was enhanced by the addn. of a suitable mixt. of Methyl red and m-Cresol Purple acid-base color indicators. The suitability of the technique was demonstrated for different acid-base **titrns.** As an example, the detn. of the drug content of a nicotinic acid-contg. exptl. pharmaceutical prepn. is described.

L10 ANSWER 30 OF 83 CA COPYRIGHT 2003 ACS

AN 114:54977 CA

TI Determination of arsenic(III), sulfite and sulfur dioxide using the **triangle programmed coulometric titration** principle

AU Buchholz, F.; Buschmann, N.

CS Univ. Muenster, Munester, D-4400, Germany

SO Fresenius' Journal of Analytical Chemistry (1990), 338(5), 622-6

AB G. Nagy et al. (1975, 1977) established a new method called **triangle programmed coulometric titrn.**, which allows to **titrate** flowing sample solns. The following paper presents a new anal. procedure for the detn. of sulfur dioxide based on this technique. To obtain this, sulfur dioxide was transferred across a semipermeable membrane from a gaseous phase into an aq. acceptor phase. Then the SO₂-concn. of the streaming aq. phase was detd. bromometrically using the **triangle programmed coulometric titrn.** principle. The **titrn.** curves were followed continuously by an a.c.-

bivoltammetric flow-through detector. Using this procedure a detn. of SO₂ concns. between 400 and 2500 mg/m³ was possible.

L10 ANSWER 32 OF 83 CA COPYRIGHT 2003 ACS

AN 109:11821 CA

TI Iodometric determination of penicillins by a **triangle programmed** flow-through **titration** technique

AU Feher, Zsafia; Kolbe, Ilona; Pungor, Erno

CS Tech. Anal. Res. Group, Hung. Acad. Sci., Budapest, Hung.

SO Analyst (Cambridge, United Kingdom) (1988), 113(6), 881-4

AB A flow-through **triangle programmed titrn.** technique for the detn. of penicillin compds. was developed. The hydrolysis of the penicillins and the tiration procedure were performed under flow-through conditions. Electrolytically-generated iodine is used as the titrant and the detector system is a flow-through biamperometric type. Using the proposed method, the benzylpenicillin R content of a pharmaceutical prepn. (Penicillin for Injection) was detd.

L10 ANSWER 39 OF 83 CA COPYRIGHT 2003 ACS

AN 105:217944 CA

TI Some contributions to the optimal design of **triangle-programmed** coulometric **titration** systems

AU Spohn, Uwe; Nagy, Geza; Pungor, Erno

CS Sekt. Chem., Martin-Luther-Univ. Halle, DDR, Ger. Dem. Rep.

SO Analytical Sciences (1986), 2(5), 423-30

AB **Triangle-programmed** coulometric **titrn.** is a highly precise and reliable technique with advantageous features, such as reproducible timing, high sampling rate, and inexpensive **automation**. However dispersion in the anal. channel produces tailing which causes deviations from theor. expected **titrn.** curves. When this cannot be neglected calibration is necessary. Some theor. considerations for tailing redn. are described. Modified functional parts of flow-through anal. channels were constructed and the redn. of tailing was proved exptl. With the modified anal. channel much better fit could be achieved between the theor. and exptl. curves even at shorter **titrns.** times. With this improvement considerably smaller consumption of sample and electrolyte solns. and higher sampling rates were attained.

L10 ANSWER 42 OF 83 CA COPYRIGHT 2003 ACS

AN 100:202506 CA

TI Fourier transform in continuous stream titration

AU Bezegh, Andras; Feher, Zsafia; Toth, Klara; Pungor, Erno

CS Inst. Gen. Anal. Chem., Tech. Univ. Budapest, Budapest, H-1111, Hung.

SO Analytical Chemistry (1984), 56(7), 1143-5

AB A Fourier transform evaluation technique is described for calcg. the results obtained by a **triangle programmed titrn.** method, which is advantageously applicable to titrimetric anal. of flowing samples. The most important advantage of this technique is its ability to take into consideration the distorting effect of hydrodynamics and other linear effects, providing the possibility of shorter anal. times. The theory and application are described.

L10 ANSWER 44 OF 83 CA COPYRIGHT 2003 ACS

AN 100:184876 CA

TI **Automation of triangle programmed potentiometric titrations**

AU Gratzl, M.; Feher, Z.; Toth, K.; Pungor, E.

CS Inst. Gen. Anal. Chem., Tech. Univ. Budapest, Budapest, Hung.

SO Analytical Chemistry Symposia Series (1984), 18(Mod. Trends Anal. Chem.,

Pt. A), 297-305

AB The **triangle programmed** flow-through potentiometric **titrns.** yield 2, nearly sym. ordinary **titrn.** curves the inflection points of which correspond in ideal cases to the chem. equiv. points. The **automation** of the whole **titrn.** process involves the **automation** of the evaluation. The evaluation method must be able to find the true inflection points and to filter out the secondary inflection points caused by noises of different kinds. An evaluation method is reported which finds the true inflection points and also carries out the **automatic** calibration and recalibration of the measuring system. The **computer program** takes into account the actual and every former calibration data, with exponentially decreasing wts. In this way large series of analyses can be done in a completely **automatic** way. As examples, acid-base **titrns.** are presented.

L10 ANSWER 56 OF 83 CA COPYRIGHT 2003 ACS

AN 92:157244 CA

TI **Endpoint** drift measurement and correction for automatic **titrations**

IN Eppstein, Lee Bernhardt; Kroeger, James Kenneth; Lindblom, Kenenth Allen

PA Photovolt Corp., USA

SO Brit. UK Pat. Appl., 14 pp.

PI GB 2021785 A 19791205 GB 1979-18572 19790529

US 4211614 A 19800708 US 1978-910174 19780530

PRAI US 1978-910173 19780530

AB An automatic coulometric **titrator**, which is useful in the **titrn.** of water by the Karl Fischer technique and which compensates for drift, comprises a titrant delivery means, means for measuring the amt. of titrant delivered, and **end point** detector, and means responsive to the **end point detector** for **controlling** the **titrn.** The app. also comprises control circuitry and visual display elements. Correction of pos. drift is effected by generating a signal corresponding to the amt. of titrant delivered, generating a time signal corresponding to the time elapsed from the beginning of the **titrn.**, continuously delivering titrant until a predetd. **end point** value is detected, and periodically reintroducing titrant to maintain the sample at the **end point.** The signals generated at the time the **end point** is 1st reached are stored and later compared with the signals generated after addn. of further titrant during a predetd. time interval. For example, in **titrns.** of a sample contg. 450 μg H₂O by using 100.35 mA **titrn.** current, 25.09 mA neg. drift current, and 70 mV **end point**, without drift 450 μg were detected and with pos. drift 468 μg were detected.

L10 ANSWER 64 OF 83 CA COPYRIGHT 2003 ACS

AN 90:33387 CA

TI A novel **titration** technique for the analysis of streamed samples - the **triangle-programmed titration** technique. Part 4. **Automatic** evaluation of the **titration** curves obtained with linear signal detectors

AU Nagy, G.; Lengyel, Z.; Feher, Z.; Toth, K.; Pungor, E.

CS Inst. Gen. Anal. Chem., Tech. Univ. Budapest, Budapest, Hung.

SO Analytica Chimica Acta (1978), 101(2), 261-71

AB An **automatic** evaluation technique is described for calcg. the results obtained by the **triangle-programmed titrn.** technique, which is useful for carrying out **titrns.** in flowing samples of small vol. A desk-top **computer** is employed with a relatively simple **program** for the evaluation. The properties of the **program** and its exptl. applicability are described.

L10 ANSWER 66 OF 83 CA COPYRIGHT 2003 ACS

AN 89:172922 CA

TI A novel **titration** technique for the analysis of streamed samples - the

triangle-programmed titration technique. Part 3. **Titration**s with electrically generated bromine

AU Nagy, G.; Feher, Z.; Toth, K.; Pungor, E.

CS Inst. Gen. Anal. Chem., Tech. Univ., Budapest, Hung.

SO Analytica Chimica Acta (1978), 100, 181-91

AB The **triangle-programmed titrn.** technique brings together the advantages of flow-through techniques and **titrn.** methods. **Titrn**s. with Br prepd. by current-**programmed** electrolysis are reported; suitable instrumentation is described for biamperometric end point indication. The electrode processes and the effects of different parameters of the reagent addn. **program** are discussed. The applicability of the method to org. and inorg. substances is described. The technique is applicable to flowing sample solns. of small vol., and the rate of anal. is similar to that achieved with other semi-**automated** analyzers.

=> log y

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